Name:
Section No.:
SSN:
GSI:

Economics 102
Introduction to Macroeconomics
Prof. Alan Deardorff

Midterm Exam 2 - Answers

Form 1

March 23, 1998

Part 1: Multiple Choice (60 points, 3 each)

1. e
2. e
3. d
4. a
5. d
6. b
7. a
8. e
9. b
10. b
11. b
12. d
13. e
14. d
15. a
16. d
17. c
18. b
19. d
20. a,c

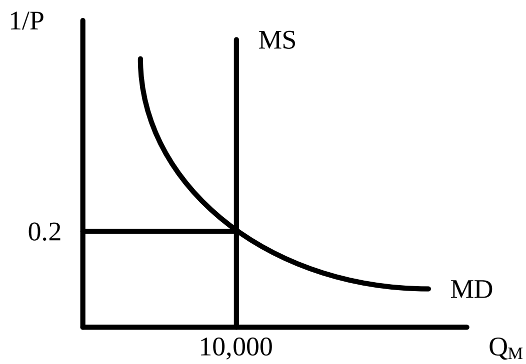
Part II: Short Answer (38 points)

1. (16 points) Consider an economy in which no one holds cash and banks lend to their limits. Currently in this economy there are $1,000 in reserves in the banking system, the required reserve ratio is 10%, the price level is $5 a unit, and real output is 5,000 units per year.

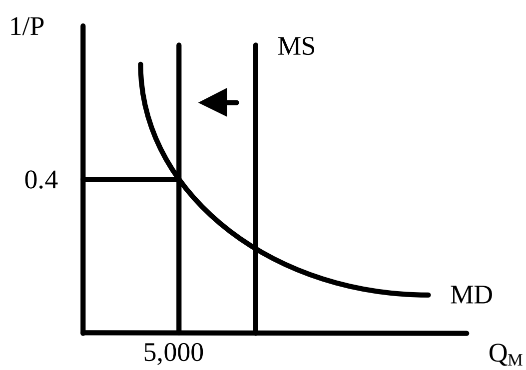
   a. (2 points) The money supply is $10,000 dollars in this economy.

   b. (2 points) According to the quantity theory of money, the velocity of money is 2.5 times per year in this economy.

   c. (5 points) In the space below draw the long run MS/MD diagram for this economy, clearly labeling all curves and axes. Also, label the equilibrium value of money and give the actual value (the numerical value).



   d. (7 points) The monetary authority in this economy now decides to raise the discount rate, which prompts banks to hold an extra 10% in reserves against all deposits. In the space provided below redraw the long run MS/MD diagram given the change in the discount rate. Clearly label the new equilibrium value of money and money supply, and provide the new numerical value for each.



2. (9 points) For each of the following transactions indicate its effect or effects on (US) net exports (NX) and/or net foreign investment (NFI). For changes in NFI, indicate whether they involve foreign direct investment (FDI) or foreign portfolio investment (FPI). Briefly explain why you categorized each transaction as you did.

a. (3 points) The Russian government sells stock in a state owned enterprise, a small portion of this stock is purchased by a US investor using dollars. The Russian government holds the dollars in its bank vaults.

Stock Purchase	(+FPI)
Dollar Sale	(-FPI)

No net effect

b. (3 points) A Canadian citizen buys a parcel of land in the US from a US farmer to develop as a strip mall using Canadian dollars. The Farmer keeps the Canadian dollars.

Dollar Purchase	(+FPI)
Land Purchase	(-FDI)

No net effect on NFI or NX.

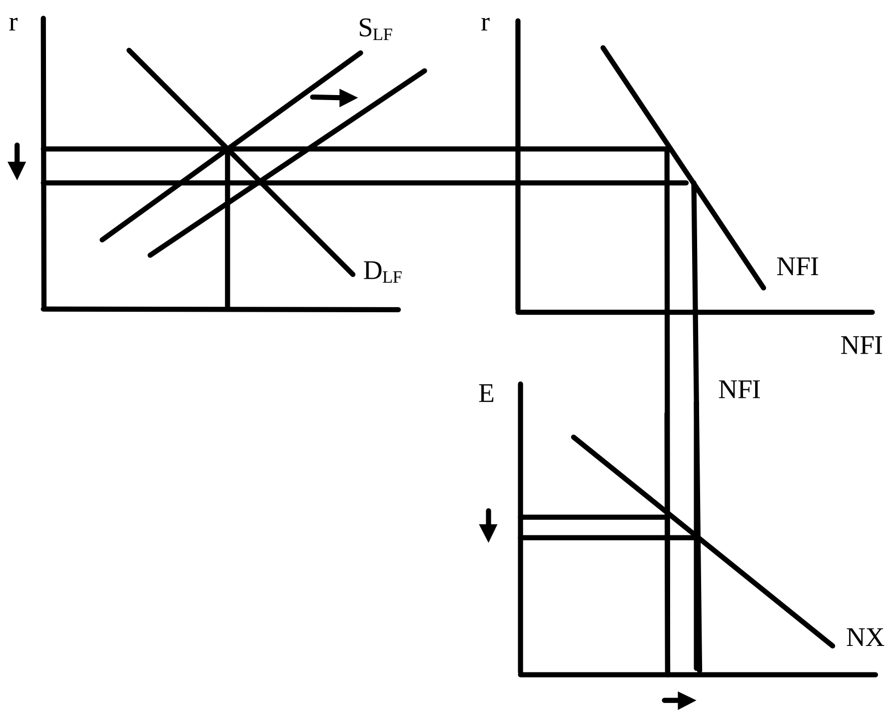
c. (3 points) A US citizen exchanges dollars for Yen with a Japanese bank on the exchange market. The US citizen buys a camera produced in Japan using these Yen, while the Japanese bank keeps the dollars in its vault.

Yen Purchase	(+FPI)
Dollar Sale	(-FPI)
Camera Purchase	(-NX)
Yen Sale	(-FPI)

Net effect: -NX = -NFI (-FPI)

3. (13 points) This year US tax payers were given the option to invest money in a new tax-deferred savings vehicle called a Roth IRA. Specifically, the interest earned on any savings in a Roth IRA is not subject to tax. In this question you will analyze the long run effects of such a policy ignoring the implications of such a policy for the government budget (i.e. assume that there is no change in government spending or taxes collected). Also, assume that there is no net effect on real output.

a. (5 points) In the space provided below illustrate the effects of this policy using Mankiw's real interest rate / real exchange rate diagrams. Make sure that you clearly label all axes, all curves, and the direction of change for all variables that are determined by the model. Briefly explain.



A decrease in the tax rate on some savings will increase the net (after tax) real interest rate earned on savings. Thus, private savings will increase at every real interest rate. Since we are to assume that there is no change in government spending, taxes collected or real income, this leads to a rightward shift of the S_{LF}.

b. (8 points) Give the direction of change for each of the following variables:

i. real interest rate falls

ii. real exchange rate falls (depreciates)

iii. national savings rises

iv. private savings rises

v. domestic investment rises

vi. net foreign investment rises

vii. net exports rise

viii. consumption falls